

# CAUSATION AND AFFECTEDNESS IN CHOCTAW

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## 1. Introduction

This paper examines some unexpected instances of the causative morpheme in Choctaw, a Muskogean language spoken in Mississippi and Oklahoma.<sup>1</sup> I argue that examination of the use of the causative yields insight into the lexical semantics associated with causation and affectedness. In particular, this paper suggests that conceptual structures like those proposed by Jackendoff (1990, 1993) for the analysis of causation provide an illuminating framework in which to examine the data.

### 1.1 The way the causative is supposed to work

Choctaw has a productive causative suffix /-chi/, which can be added to nearly every verb in the language. For the most part, /-chi/ behaves exactly as one expects a causative morpheme to behave. Consider the following examples:

- 1) Hattak-at taloowa-tok.  
man-nm sing-pt

'The man sang.'

- 2) Abangpoli-yat hattak taloowa-chi-tok.  
preacher-nm man sing-caus-pt

'The preacher made the man sing.'

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Symbols in the orthography have their usual phonetic values, with the following exceptions: <sh> = [ʃ], <ch> = [tʃ], <lh> = [l], and underlining represents nasalization. The following abbreviations are used: aff=affix/affected, caus=causative, d=demonstrative, nm=nominative, pl=plural, pt=past. ss=same subject, tns=tense.

In these examples, the causative suffix triggers a.) an increase in the valence of the verb stem, and b.) a change in grammatical relations, i.e. a non-causative subject becomes a causative object. This is what causatives do in languages around the world, and there is nothing particularly surprising about these examples.

### 1.2 When /-chi/ doesn't behave as expected

However, the suffix /-chi/ sometimes doesn't behave as expected; when added to a verb stem, there is neither an increase in valence nor a change in grammatical relations. Consider the following examples:

- 3) John-at ashanni-tok.  
John-nm twist-pt

'John twisted it.'

- 4) John-at ashanni-chi-tok.  
John-nm twist-aff-pt

'John twisted it hard/ twisted it with difficulty/ twisted it and broke it.'

For ease of discussion, I'll refer to the ordinary causative as /-chi<sub>1</sub>/ and the morpheme shown in example (4) as /-chi<sub>2</sub>/.

The focus of this paper is determining what /-chi<sub>2</sub>/ is. Are /-chi<sub>1</sub>/ and /-chi<sub>2</sub>/ the same morpheme or different morphemes? What does /-chi<sub>2</sub>/ mean, and how is it used?

### 2. The meaning of /-chi<sub>2</sub>/

It is sometimes difficult for Choctaw speakers to explain the difference in meaning between sentences like (3) and (4) above. Consider the following four instances of /-chi<sub>2</sub>/, which give a sample of the range of different English translations for such sentences:

- 5) a. Shilosh aayalhto fokki-tok.  
shoe box put:pl-pt

'He put his shoes in the box.'

- b. Shilosh aayalhto fokki-chi-li-h.  
shoe box put:pl-aff-1st-tns  
'I forced the shoes into the box.'
- 6) a. Akakoshi hobi-tok.  
egg boil-pt  
'She boiled an egg.'
- b. Akakoshi hobi-chi-tok.  
egg boil-aff-pt  
'She cooked an egg by boiling it.'
- 7) a. Okhissa ashanni-tok.  
door lock-pt  
'He locked the door.'
- b. Okhissa ashanni-chi-tok.  
door lock-aff-pt  
'He forced the door to lock.'
- 8) a. Itti kobaffi-tok.  
wood break-pt  
'He broke the stick.'
- b. Itti kobaffi-chi-tok.  
wood break-aff-pt  
'He caused the stick to be broken. (perhaps after some difficulty)'

Examining the range of English translation, two semantic regularities seem to account for the great majority of the data. Comparing verbs with and without /-chi<sub>2</sub>/, one may state that in general, verbs with /-chi<sub>2</sub>/ indicate either a.) a more completely affected patient, or b.) a greater effort on the part of the agent.

However, these two semantic effects are logically linked to each other. In general, the degree of effort on the part of the agent ought to correlate with the degree of affectedness of the patient. So it's possible for our statements to treat either of the two semantic effects as basic and

derive the other by inference. Somewhat arbitrarily, I'll proceed on the assumption that /-chi<sub>2</sub>/ is most perspicuously treated as marker of affectedness.

### 3. An unsatisfying account of /-chi/

Before moving to what I think is the correct account of these facts, I'd like to consider one possible solution to the problem that I believe is ultimately unsatisfactory. This approach would say that there are two homophonous morphemes /-chi<sub>1</sub>/ 'causative' and /-chi<sub>2</sub>/ 'affected'.

However, data from the distribution of /-chi<sub>2</sub>/ suggest that this approach is inadequate. It turns out that virtually every verb in Choctaw may occur with /-chi<sub>1</sub>/, but only a subset of verbs appear with /-chi<sub>2</sub>/.

This means that nearly every verb allows the suffix /-chi/. However, some verbs have only the causative reading for this suffix, while other verbs are ambiguous between the causative and affected readings. Let's call the verbs for which /-chi/ can mark either causation or affectedness type A verbs, and those in which /-chi/ marks only causation type B verbs:

Type A verbs: /-chi/ = either /-chi<sub>1</sub>/ or /-chi<sub>2</sub>/

- 9) Akakoshi hobi-chi-tok.  
egg boil-aff-pt
- 'She cooked an egg by boiling it.' (affected)  
or 'She made someone boil an egg.' (causative)

Type B verbs: /-chi/ = only /-chi<sub>1</sub>/

- 10) Ohooyo-mat taloowa-chi-tok.  
woman-d:nm sing-caus-pt
- 'That woman made someone sing.' (causative)  
(no other reading possible)

To get a feel for the sorts of verbs that occur in each type, consider the following list of all the Type A verbs that I have identified so far.

abohlih	'to be overgrown, to get weedy, to be a thicket'
achqlih	'to sew'
ashannah	'to twist, to lock'
awashlih	'to fry'
fokkih	'to put (one object) in' [see also type C verbs, below]
hittopalih	'to hurt (someone)'
hobih	'to boil (something like an egg.)'

honih	'to cook by boiling'
kapassalih	'to cool (something)'
kobaffih	'to break (something like a stick)'
koolih	'to break (something like glass)'
polhommih	'to hem, to fold over'
tablih	'to break (something) apart'
tiloffih	'to break, knock off (so that a stump remains)'
tohnoh	'to hire, order'
bichiilih	'to pour out'
lhatablih	'to spill (something)'
alootalih	'to fill'
lhipiilih	'to spill'
kochchawihlih	'to take out'
kashoffih	'to clean'
kashoolih	'to wipe'
kihlih	'to wipe (oneself, after defecation), to wipe out (some loose material from a tight area, e.g. ashes from under a grate)'
iskoonachih	'to gut, disembowel'
halallih	'to pull'
toblih	'to push'
hopiilah	'to distribute'
lohmih	'to hide'
fammih	'to whip, spank'
bahlih	'to gore'

Here are samples of type B verbs:

imachokmah	'to feel well'
kanallih	'to move'
komootah	'to be fearful, jittery'
naayoppah	'to be happy'
nokshoopah	'to fear'
shataalih	'to swell'
shatammih	'to rise'
taloowah	'to sing'
wakiilih	'to raise'
shaalih	'to haul'
pilah	'to send, throw'
ishih	'to take'
isht alah	'to bring'
imah	'to give'
ikhanah	'to know, to learn'
issoh	'to hit'
patoolih	'to touch'
ikbih	'to make'

hooyoh	'to search for'
apah	'to eat (something)'
ishkoh	'to drink'
itokfikoowah	'to hiccup'
hqksoh	'to fart'
okmochoklih	'to close the eyes, to blink'
haksih	'to be drunk, duped, tricked, taken advantage of'

It also seems necessary to identify a group we can call type C, in which /-chi/ yields an idiomatic reading. In some cases the regular causative reading is also available:

pisah	'to see'
pisaachih	'to breed (a female animal) with (a male animal) [as if 'cause (her) to see (him).']
ahnih	'to think, hope, wish, ...'
ahnichih	'to like, love, respect'
anih	'to put (pl. obj. or liquid) in'
aniichih	'to blister' [because blisters fill up with liquid?]
fokkih	'to put (pl. obj.) in'
fokkichih	'to grease' <sup>2</sup>

The account that treats /-chi<sub>1</sub>/ and /-chi<sub>2</sub>/ as separate morphemes is unsatisfying because it is now necessary to mark every verb in the lexicon for whether it allows 'affectedness /-chi/'. But this treats the facts as if there were no generalizations about the semantics of type A and type B verbs, and this is surely false.

#### 4. A unified semantic account of /-chi/

I suggest that we can unify the semantics of what we have called 'causative /-chi/' and 'affectedness /-chi/' by examining more closely the conceptual structures associated with causation. Jackendoff (1990, 1993), following suggestions by Talmy (1985) and Cullicover and Wilkins (1986), claims that prototypical causation conflates at least two logically distinction notions, CAUSE and AFFECT. CAUSE expresses the relationship between Agents and events, while AFFECT expresses the relationship between Actors and Patients. The predicate structures associated with these functions are as follows:

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<sup>2</sup> The semantic connection here seems to be that liquids and solids without definite shapes (such as flour, grease, or sand) are treated as plurals, and thus are related to the plural object sense of *fokkih*.

- 11) CAUSE (Thing, Event)  
AFFECT (Thing, Thing)

In the most prototypical cases, both notions are involved. Consider a sentence such as *John twisted the bottle cap*, to which Jackendoff would assign a semantic structure like the following:<sup>3</sup>

- 12) CAUSE ([<sub>Thing</sub> John], [<sub>Event</sub> INCH (*TWISTED* [<sub>Thing</sub> bottle cap])])  
AFFECT ([<sub>Thing</sub> John], [<sub>Thing</sub> bottle cap])

Let us assume that the Choctaw causative has the following representation:

- 13) /-chi/  
Aff  
[ \_ VP]
- |   |
|---|
| CAUSE ([ <sub>THING</sub> ], [ <sub>EVENT</sub> ])  |
| AFFECT ([ <sub>THING</sub> ], [ <sub>THING</sub> ]) |

When /-chi/ is added to a verb, the semantic portion of this entry must combine with the semantics of the base verb (in some manner to be made precise).

The semantics of what we have been calling /-chi<sub>2</sub>/ are just those shown above, minus the CAUSE predicate. We can now rephrase the question "When does /-chi<sub>2</sub>/ appear?" as "Under what conditions can the CAUSE predicate associated with /-chi/ be omitted?" As a first approximation, we might say that the common semantic component of the type A verbs is the presence of a CAUSE predicate in the lexical semantics of the verb stem.

So a type A verb like *ashannah* 'to twist, unlock' has a semantic representation like the

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<sup>3</sup> I have varied Jackendoff's formalism slightly for ease of presentation. INCH = inchoative 'become'.

By *TWISTED* I intend some representation of whatever the inherent lexical semantics of this idea are, whether represented by features, prototypes, 3D sketch, or something else. Crucially, items like *TWISTED* aren't being proposed as universal members of lexical entries, and they have a different status than predicates like CAUSE or AFFECT.

following:

- 14) ashannih 'to twist'  
[EVENT CAUSE (x, [EVENT INCH (TWISTED[y])])]

While a type B verb like *kanallih* doesn't:

- 15) kanallih 'to move'  
[EVENT GO (x, [PATH])]

The rule for the missing causative can now be stated rather simply:

- 16) Causative deletion (version 1)
- [EVENT CAUSE (z, [EVENT CAUSE ..... ])]
- ↓
- (optional)
- Ø

In other words, "Optionally delete a CAUSE predicate when it is preceded by another CAUSE predicate." Many of the type B verbs fail to undergo this rule because they lack a CAUSE predicate in their lexical semantics.

However, there is a potential problem here. Some of the verbs listed as type B verbs might also plausibly be analysed as containing a CAUSE predicate. For example, *pilah* 'to send' is arguably something like CAUSE (x, GO (y)).

Provisionally, let's say that the relevant distinction between a type B verb like *pilah* 'to send' and a type A verb like *ashannih* 'to twist' is that the latter contains an INCH predicate as well as a CAUSE. Then the causative deletion rule can be revised as follows:

- 17) Causative deletion (version 2)
- [EVENT CAUSE (z, [EVENT CAUSE (y, [EVENT INCH ..... ]))])
- ↓
- Ø

If we accept some rule like (17), then the distinction between the affectedness and causative readings of *ashannichih* can be expressed as follows:



18) *The causative reading*ashannichih 'to cause (someone) to twist (something)'<sup>4</sup>[<sub>EVENT</sub>CAUSE (x, [<sub>EVENT</sub>CAUSE (y, [<sub>EVENT</sub>INCH (TWISTED(z))])]  
AFFECT (x, z))*The affectedness reading*

ashannichih 'to twist something (with difficulty...)'

[<sub>EVENT</sub>CAUSE (x, [<sub>EVENT</sub>CAUSE (y, [<sub>EVENT</sub>INCH (TWISTED(z))])]  
AFFECT (x, z))

Under an approach incorporating a rule like causative deletion, there is no separate /-chi<sub>2</sub>/ morpheme. The anomalous non-causative /-chi/'s discussed above turn out to be lexical entries where the rule of Causative deletion (17) has applied.

There seem to be three advantages of this approach: a.) /-chi/ is treated as a unitary morpheme. b.) lexical marking for /-chi/ isn't necessary, and c.) the semantic classes of type A and B verbs are accounted for. Since we must assume that lexical entries already contain the conceptual structures associated with verbs, we can exploit already-present features of these structures to explain the interpretation of /-chi/ and avoid proliferating arbitrary lexical features.

## 5. A related consideration — /-chi/ and /-li/

An astute reader may have noticed another pattern among the type A verbs, this pattern a morphological one. Nearly all the type A verbs end in a morpheme /-li/. What is the relationship between /-li/ and /-chi/?

A large number of Choctaw verbs, perhaps the majority in the language, come in

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<sup>4</sup> This verb raises a problem for the AFFECT predicate in causatives. In a sentence like 'John made Mary twist the bottle cap', what is the affected NP?

Jackendoff (1990) suggests that a useful semantic test for Patient is the ability of a NP to appear in the frame "What happened to X was ...". But for our example, both "What happened to the bottle cap is John made Mary twist it" and "What happened to Mary was John made her twist the bottle cap" seem to be good. This would seem to imply that both *Mary* and *the bottle cap* are Patients, and therefore both are second arguments of AFFECT.

Perhaps there are two distinct AFFECT predicates involved in such cases, or perhaps AFFECT may take conjoined second arguments, e.g. AFFECT (x, y&z). I'll leave the solution to this problem to future research.

active/stative pairs, like the following:

19)	bash-ah	'to be cut'
	bash-lih	'to cut'
	tiw-ah	'to be open'
	tiw-wih	'to open (something)'
	kobaf-ah	'to be broken (of something long)'
	kobaf-fih	'to break (something long)'
	ashan-ah	'to be twisted, locked'
	ashan-nih	'to twist, lock'

In these pairs, the more active member of the pair has the suffix /-li/, and the more stative member has the suffix /-a/. (There is assimilation of the /l/ in /-li/ to a preceding /b, f, lh, m, n, w, y/.)

Most, but not all, of the verbs with /-chi<sub>2</sub>/ have the /-li/ suffix. The exceptions so far are *lohmih* 'to hide', *hopiilah* 'to distribute', *hobih* 'to boil (something like an egg)', *honih* 'to cook by boiling', *tohnoh* 'to hire, order'.

Some of the verbs that don't have affectedness /-chi/ also have the /-li/ suffix: *shaalih* 'to haul, carry', *wakiilih* 'to raise'. Therefore, there is no definite connection between the two suffixes.

But there is nevertheless a large overlap between verbs with the suffix /-li/ and type A verbs. Why should this be? We might hypothesize that the representations for the active and stative 'twist' are something like the following:

20)	ashanah	'to be twisted'
	[STATE BE (TWISTED[y])]	
	ashannih	'to twist'
	[EVENT CAUSE (x, [EVENT INCH (TWISTED[y])])]	

If these representations are approximately correct, then the semantic effect of adding the suffix /-li/ is to add the elements [EVENT CAUSE (x ..... to the lexical semantics of the verb root (and perhaps the INCH predicate as well). /-li/ differs minimally from /-chi/, which adds both CAUSE and AFFECT to the semantics.

Given the proposed rule of CAUSE-deletion, it stands to reason that /-chi<sub>2</sub>/ should appear

on verbs with the suffix /-li/, since addition of /-li/ creates environments in which the rule of Causative deletion may apply.

## 6. Conclusion

The analysis sketched here suggests that Choctaw has a semantic rule which deletes a CAUSE predicate under certain conditions. It is noteworthy that stating the conditions under which this rule applies requires us to specify the conceptual structures associated with lexical entries in some detail. A fully explicit account of conceptual structures seems to be the most promising way of understanding the lexicon of Choctaw, or, indeed, any language.

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